

ABSTRACT

A lateral double-diffused metal oxide semiconductor (LDMOS) device is disclosed. The LDMOS device comprises a gate region and a body region under the gate region. The LDMOS device includes an enhanced drift region under the gate region. The enhanced drift region touches the body region. By designing the device such that the enhanced drift region overlaps and compensates the lateral tail of the body region of the LDMOS transistor, the R_{on}^* area product is reduced. Accordingly, the on-resistance is significantly reduced while minimally affecting the breakdown voltage of the device.